Pink water

From Wikipedia, the free encyclopedia
(Redirected from Red water (waste))

Pink water and **red water** are two distinct types of wastewater associated with trinitrotoluene (TNT).[1] [2] Pink water is produced from equipment washing processes after munitions filling or demilitarization operations, and as such is generally saturated with the maximum amount of TNT that will dissolve in water (about 150 ppm.) However it has an indefinite composition that depends on the exact process; in particular, it may also contain cyclotrimethylenetrinitramine (RDX) if the plant uses TNT/RDX mixtures, or HMX if TNT/HMX is used. **Red water** (also known as "Sellite water") is produced during the process used to purify the crude TNT. It has a complex composition containing more than a dozen aromatic compounds, but the principal components are inorganic salts (sodium sulfite, sulfate, nitrite and nitrate) and sulfonited nitroaromatics.

Pink water is actually colorless at the time of generation, whereas red water can be colorless or a very pale red. The color is produced by photolytic reactions under the influence of sunlight. Despite the names, red and pink water are not necessarily different shades; the colour depends mainly on duration of solar exposure. If exposed long enough, "pink" water will become dark brown.

Because of the toxicity of TNT, discharge of pink water to the environment has been prohibited in the USA and many other countries for decades, but ground contamination may exist in very old plants. However, RDX and tetryl contamination is usually considered more problematic, as TNT has very low soil mobility. Red water is significantly more toxic. As such it has always been considered a hazardous waste. It has traditionally been disposed of by evaporation to dryness (as the toxic components are not volatile), followed by incineration. Much research has been conducted to develop better disposal processes.

References

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2. ^ Yinon, Jehuda (1990). *Toxicity and metabolism of explosives* (http://books.google.com.au/books?id=BD3c7FN4x5YC&pg=PA39&lpg=PA39&dq=%22red+water%22+tnt&source=web&ots=mJ8bSKkqJL&sig=I9nPLNW7fx97JPNruHMtsEOwZlc&hl=en#v=onepage&q=%22red%20water%22%20tnt&f=false) . CRC Press. pp. 176. ISBN 0-8493-5128-6. http://books.google.com.au/books?id=BD3c7FN4x5YC&pg=PA39&lpg=PA39&dq=%22red+water%22+tnt&source=web&ots=mJ8bSKkqJL&sig=I9nPLNW7fx97JPNruHMtsEOwZlc&hl=en#v=onepage&q=%22red%20water%22%20tnt&f=false.

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